

TALKS ON INSECT PESTS.

VIII.—Spraying Potatoes Again; Observations on Insects on Potatoes that had been Sprayed.

Editors Progressive Farmer:

We have before advocated the spraying of potatoes in these columns and Dr. Stevens, of the A. and M. College, has also contributed an excellent article on the subject. In the southeastern portion of this State, where the strawberry season comes just when the potatoes (and the beetles) are getting well started, it will be found more or less difficult to get the spraying done if one is to rely on negro labor, for the negroes will naturally flock to the strawberry fields. Indeed, one grower at Rocky Point, Pender County, informs me that he has found it simply impossible to find a negro who will carry and industriously work with a Knapsack pump. Where such difficulties are met with, one must depend upon other labor or else adopt some device which shall make the work less tedious. Mr. D. Lane, of Craven county, has stated in these columns that he uses a Knapsack pump fitted with a cross-section and a nozzle at each end of the section, the nozzles being as far apart as the distance between the rows. In this way he finds it practicable and economical to spray two rows at a time, and the work is done faster and cheaper than if only one nozzle were used.

Sooner or later our larger potato-growers will adopt some form of sprayers, such as shown here, for spraying four rows or more at a time.

One may also buy an ordinary barrel spray pump and have it fitted with nozzles, hose and piping for spraying, even as high as six or ten rows at a time. Of course where so many rows are to be sprayed at once the spray-tank must be large to hold enough of the spray material so that you will not have to be refilling constantly. It requires from 50 to 100 gallons to spray one acre of potatoes.

The apparatus shown in the illustration is known as the "Watson Four-row Potato Sprayer," and can be bought from Mr. Percy L. Banks, 41 Union street, Norfolk, Va., to whom any one interested should write for full information.

You should use Bordeaux Mixture and Paris Green. Prepare according to the directions given in Entomological Circular No. 9 (which will be sent on application), which also gives a full account of the potato beetle. You should watch the various agricultural papers and write to the firms that advertise spraying apparatus so as to keep informed regarding the kinds of pumps in use.

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In my own garden I have been making some experiments and observations in a small way. My garden is very small and I have only three short rows of early potatoes. Two of these rows I am keeping sprayed with the Bordeaux Mixture and Paris Green, and the other one I am purposely neglecting, just to note the differences. The Colorado potato beetles

appeared soon after the potatoes came out, and as soon as there was a good expanse of leaves I gave the first application. Last Monday morning (May 9th) the second application was made. It rained very heavily Monday night, but the Bordeaux had time to dry on and so the application was not washed off. On the sprayed rows I have not seen more than two or three of the beetles up to this time while on the unsprayed row I can find a dozen or two at any time. On the sprayed rows I have not seen a single batch of the eggs, while on the unsprayed rows there are eggs in abundance, some of which are now hatching to the larvae. On the sprayed rows I can find scarcely a flea-beetle, while on the unsprayed



rows all the leaves are more or less riddled with the little holes eaten (for it eats, not sucks) by them.

To make a further and more definite test I took several of the potato-beetles and put them on one of the sprayed plants and confined the whole in a cage so that they could get no other food. At one time or another during the two hours I carried on the observation all three of the beetles ate a little, but after a few mouthfuls would stop and crawl to some other part of the plant as if seeking for a place not covered by the application. Being in some haste, I then removed the cage when they all began to crawl about from one plant to another, taking only a few bites and then going to another, all the time giving every evidence of anxiety to find an untreated plant. One of the beetles visited five different plants in a few minutes, descending to the ground and crawling to the next plant in each case. I also observed a flea-beetle, which started to feed on one of the sprayed plants, but only ate part of the way through the leaf, when he evidently became disgusted and disappeared—no one who has ever closely watched a flea-beetle will expect me to know where he went. Two days later in hoeing near these treated potatoes I found the discolored corpse of a potato-beetle, which I accept as the concluding chapter in the story of those beetles which tried to feed on the sprayed potatoes. In all, the three beetles had not eaten more of the leaf space than would be covered by one's little finger nail. At the

present time the plants in the sprayed rows are larger and of a more healthy green than the unsprayed. This, be it understood, is the beneficial result of the blue stone in warding off the fungous troubles, for the Paris Green is only to kill the insects. Aside from the killing of the beetles, therefore, the Bordeaux Mixture and Paris Green is of marked benefit.

These experiments and observations prove clearly to my mind the following points: (1) That the presence of the Bordeaux Mixture and Paris Green on the potato leaves renders them both distasteful and fatal to the potato-beetle. (2) That it renders them almost equally secure from the attacks of the flea-beetle. (3) That the blue stone is of

great benefit in promoting the general vigor of the plant. (4) That best results are to be had by using Bordeaux Mixture and Paris Green together, sprayed on the plants, as by this means both insects and fungous diseases are counteracted at once. (5) That the applications more than pay for themselves in the increased vigor of the plant, aside from any consideration of the beetles.

Therefore, let me say in conclusion that to simply make an application that will kill the beetles is not sufficient. Make the application that will check both the beetles and the fungous diseases. Write for Circular No. 9 on the Potato-beetle.

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[The Watson Potato Sprayer mentioned by Mr. Sherman, is manufactured by the Field Force Pump Co., 229 11th St., Elmira, N. Y., who will gladly furnish information or fill orders.—Editor.]

Vote for Stedman and Glenn.

The following is the aggregate vote which Stedman and Glenn will receive, respectively, in the State convention from those counties that have already held conventions or primaries, or both. Any variation from these figures will be so slight as not to affect their value, and is as likely to favor one candidate as the other:

For Stedman156

For Glenn105

Hon. W. D. Turner is third and Col. T. F. Davidson fourth in the race.

STATE NEWS

FROM CURRITUCK TO CHEROKEE.

Items of Interest Gleaned from Our Correspondents and Exchanges.

Rev. Robert Strange, D. D., rector of St. Paul's parish, Richmond, Va., was elected bishop coadjutor to Bishop A. A. Watson, of the diocese of East Carolina last week.

It is said that Senators Simmons and Overman, Governor Aycock and Gen. Julian S. Carr will probably be the four delegates at large from this State to the Democratic National Convention.

It would appear that there must be a good deal in a name after all, in view of the spirited discussion the change in the name of our Baptist University for Women has called forth. We have a sly notion that our good friend Judge Winston must have had a hand in dropping that "female" out and replacing it with the better and nobler name of "women."—Charity and Children.

Charlotte Chronicle: It is not at all surprising to learn that Prof. Chas. Baskerville, of the University of North Carolina, has been elected to the chair of chemistry in the college of New York. Prof. Baskerville recently came into prominence through his discovery of two new chemical elements. He is as great a man in the chemical world today as Edison is in the electrical world.

Statesville Landmark: The Republican State ticket is made up largely of new material. C. J. Harris, the nominee for Governor, is a prominent business man of the extreme western section of the State. He is a native of Minnesota and is said to be a man of education and character. C. G. Bailey, of Davie, nominated for Treasurer, is well known in Iredell, and F. A. Linney, the nominee for Auditor, is a son of ex-Congressman Linney. Hamrick was Labor Commissioner and Abbott Corporation Commissioner in the old days. Judges Montgomery and Douglas are now on the Supreme Court bench, Montgomery having been named as a Populist in the days of fusion.

Peebles Contempt Case to be Heard by Judge Brown June 14th.

Lumberton, N. C., May 27.—Judge George H. Brown, Jr., will be asked to hear the contempt case against the Robeson bar in Fayetteville on June 14th. He will be the sole judge and pass upon both the law and the evidence. This removal is in conformity with another proposition today from Judge R. B. Peebles, which has been assented to by counsel for the lawyers after five hours consultation, but the order of the court will not be made until tomorrow.

This outcome is the result of some concessions from each side. The charge of drunkenness caused Judge Peebles to desire to depart from what he deemed the usual course in contempt proceedings, and he sent the matter to another judge. To accomplish this he recedes from his